
PA1 – Playing with Embree

Embree Usage

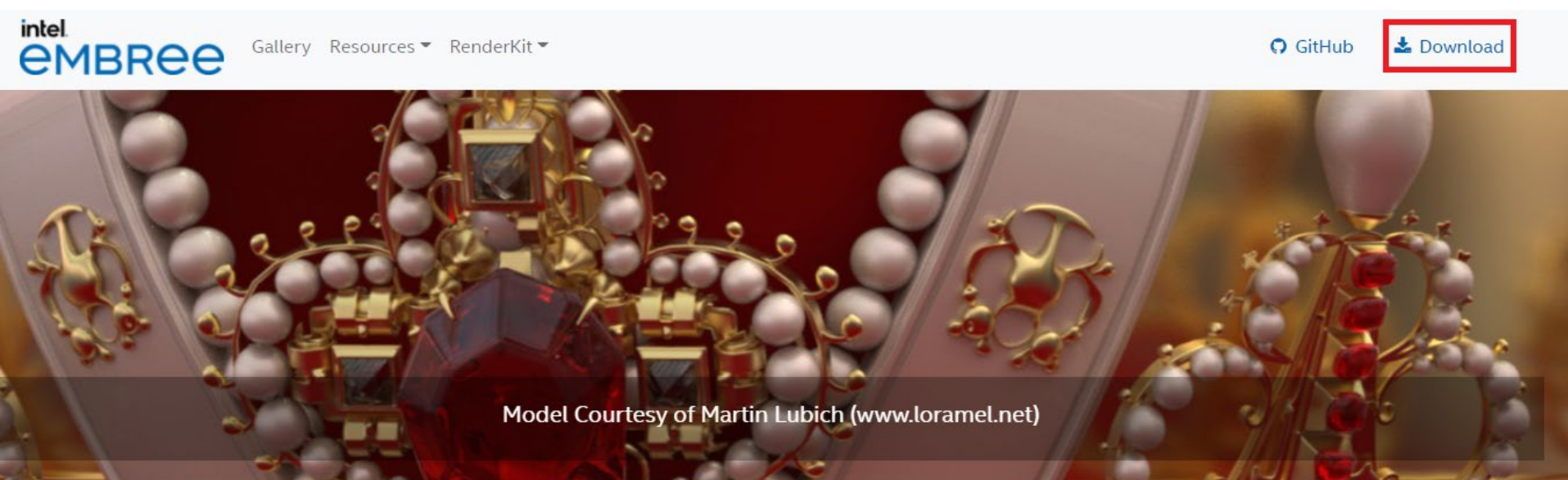
- **High performance ray tracing kernel**
 - Intel's ray tracing kernel optimized for Intel processors
- **Various kind of simulations**
 - Lighting, sound, particles, collision detection, etc.)



**Embree: A Kernel Framework for Efficient CPU Ray Tracing
(SIGGRAPH 2014)**

Installation

- **Installing Embree Binary**
 - Access <https://www.embree.org/>



Installation

Embree v4.3.3

Latest

- Added RTCErrror RTC_ERROR_LEVEL_ZERO_RAYTRACING_SUPPORT_MISSING which can indicate a GPU driver that is too old or not installed properly.
- Added the API function rtcGetDeviceLastErrorMessage to query additional information about the last RTCErrror returned by rtcGetDeviceError. This can be used in case device creation failed and a rtcErrorFunction could not be set up for this purpose.
- Added the API function rtcGetErrorString which returns a string representation of a given RTCErrror error code. This is purely meant for convenient error information reporting on the user application side.
- Performance improvements on GPU for the one level instancing case (RTC_MAX_INSTANCE_LEVEL_COUNT 1).
- Reduced the number of unnecessary GPU-CPU USM back-migrations which can increase build performance for scene with many instances on GPU.
- Started adding public CI tests for streamlining integration of external pull requests.
- Work-around for problem with unsigned Windows binaries.

▼ Assets 9

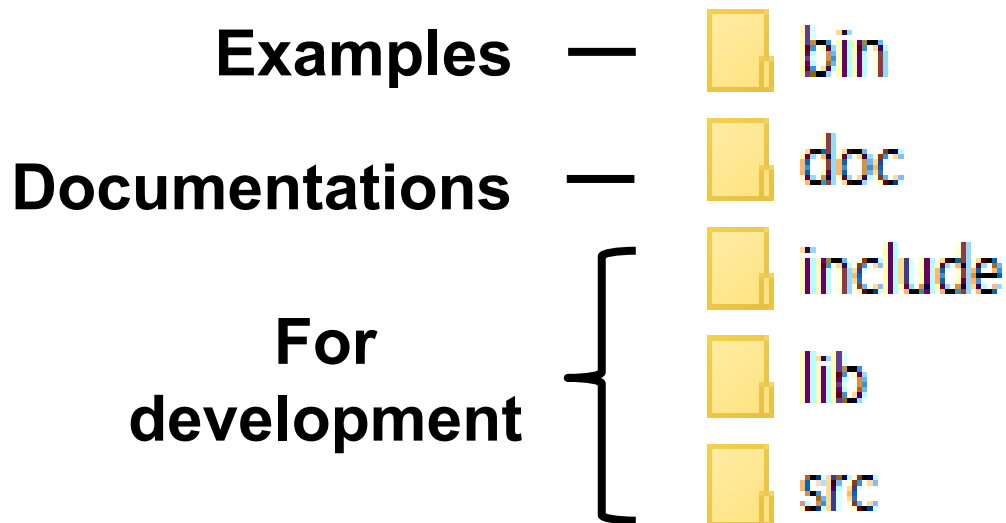
 embree-4.3.3-testing.tar.gz	51.7 MB	Jul 22
 embree-4.3.3.arm64.macosx.zip	55.9 MB	Jul 22
 embree-4.3.3.sycl.x64.windows.zip	124 MB	Jul 22
 embree-4.3.3.sycl.x86_64.linux.tar.gz	122 MB	Jul 22
 embree-4.3.3.x64.windows.zip	72.9 MB	Jul 22
 embree-4.3.3.x86_64.linux.tar.gz	71.4 MB	Jul 22
 embree-4.3.3.x86_64.macosx.zip	70.8 MB	Jul 22
 Source code (zip)		Jul 22
 Source code (tar.gz)		Jul 22

  3 3 people reacted

Binary
for
Win/
Linux/
Mac
Source

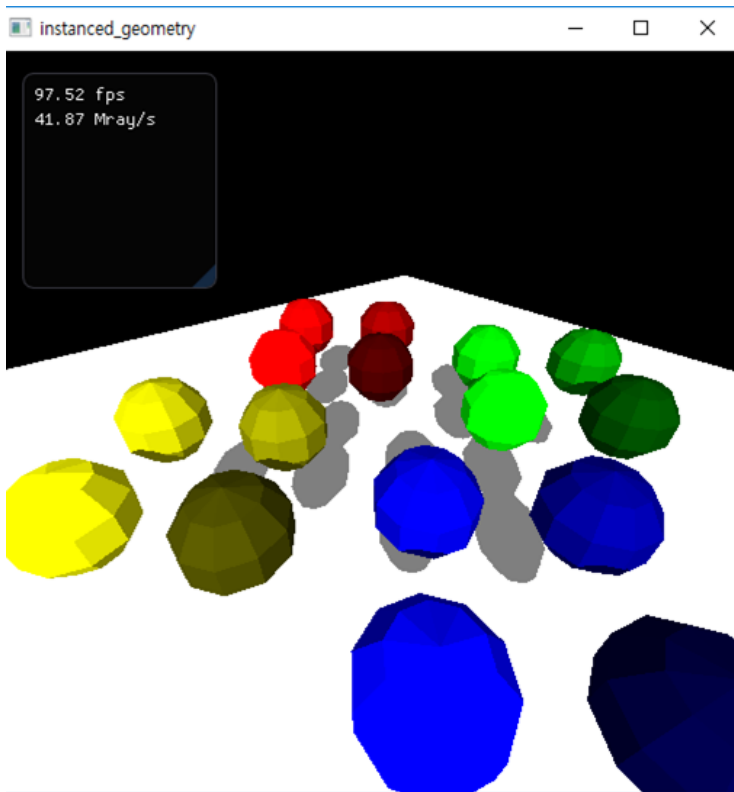
Example : Windows – 64-bit

- Contents of **embree-4.3.3.x64.windows.zip**

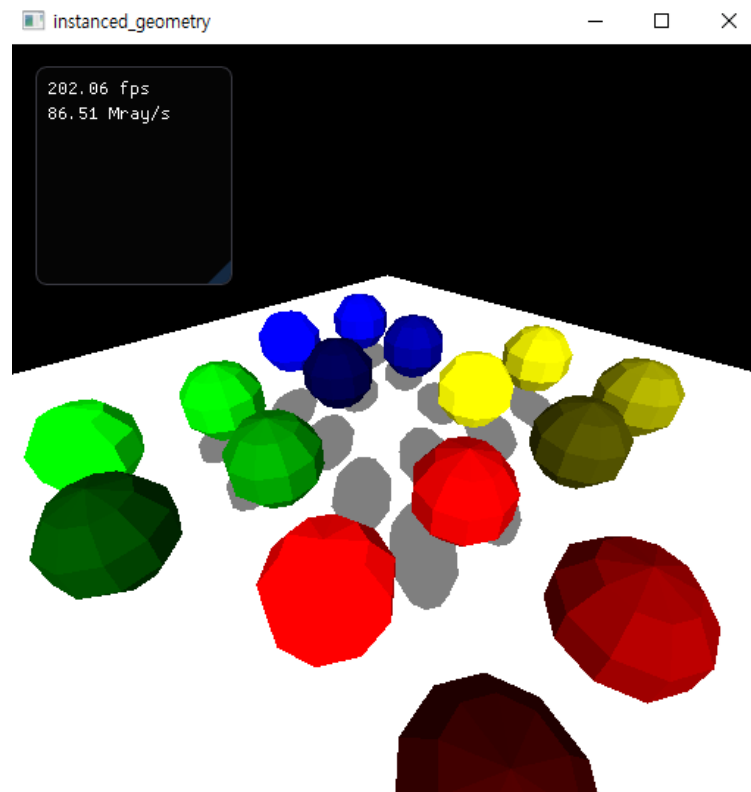


Playing with Embree

- Play with some examples



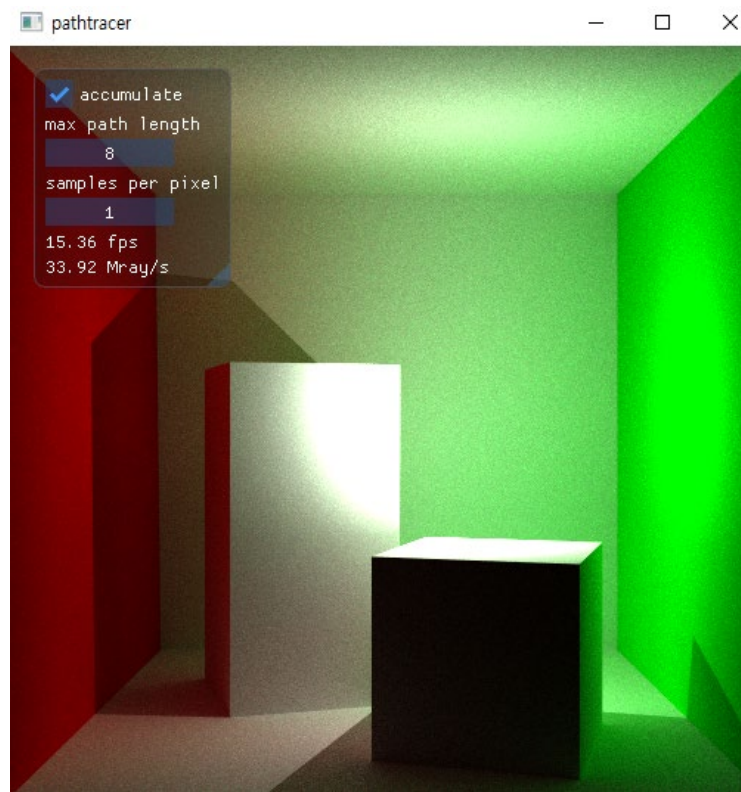
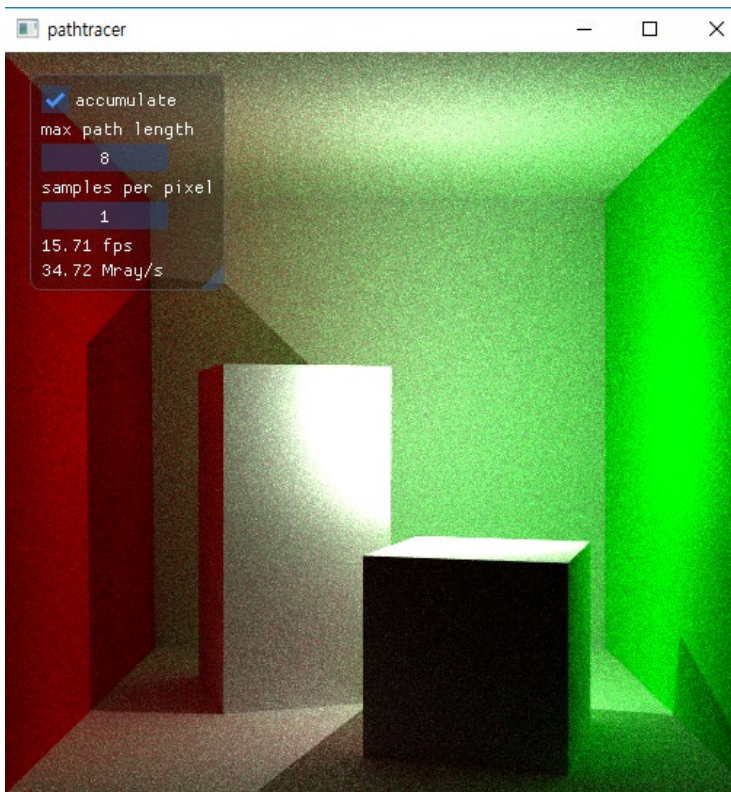
Instance_geometry



Instance_geometry_ispc

Playing with Embree

- Play with some examples



path_tracer; how the scene changes when time passes?

Playing with Embree

- Play with some examples



hair_geometry; how the scene changes when time passes?

Playing with Embree

- **See how it changes when time passes**
- **Interact with the scene**
 - **Drag mouse ...**
- **Submit screenshots of following projects:**
 - **pathtracer**
 - **quaternion_motion_blur**
 - **voronoi**